

New taxa and some new nomenclature in *Eucalyptus*

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ABSTRACT

The coastal form of manna gum is established in the new combination, *Eucalyptus viminalis* subsp. *pryoriana*. The mallee box, *Eucalyptus wimmerensis* from western Victoria, is changed in rank to a subspecies of *E. viridis* and a recently discovered red box from far eastern Victoria, *E. polyanthemos* subsp. *longior*, is described. The mallee from north-western Victoria, incorrectly known as *E. anceps* (type = *E. rugosa*), which occurs chiefly in South and Western Australia is published as *E. phenax*. Notes on *E. willisii* subsp. *falciformis* and its extended distribution are given. Problems resulting from the inadequately documented distribution and variation in *E. aromaphloia* Pryor & Willis are discussed. Illustrations of buds, fruits and leaves and a distribution map are provided for *E. polyanthemos* subsp. *longior* and *E. phenax*.

Introduction

In the course of our field and herbarium studies in preparation of the *Flora of Victoria* treatment of the genus *Eucalyptus*, we have found that existing classifications are not always adequate to accommodate various species. Hence we erect eight new series and one new subseries.

We have found some taxonomic groups particularly intractable. These include the peppermints, boxes and the so-called scent barks (*E. aromaphloia* group) which are discussed at length. In addition, we publish a new red box, *E. polyanthemos* subsp. *longior*, revise the status of *E. wimmerensis* and *E. pryoriana* and provide a valid name, *E. phenax*, for the widespread mallee, formerly and incorrectly known as *E. anceps* (R. Br. ex Maiden) Blakely. The order of presentation begins with notes on the peppermints and the *E. aromaphloia* group followed by the various formal taxonomic treatments in the order they appear in the forthcoming *Flora of Victoria*.

Taxonomy

1. *Eucalyptus* ser. *Radiatae* Chippendale

Eucalyptus willisii Ladiges, Humphries & Brooker subsp. *falciformis* Newnham, Ladiges & Whiffin, *Austr. J. Bot.* 31: 583 (1986). TYPE: Intersection of Taylor Rd and Burrong Shortcut, W of Mt. Victory, Grampian Ranges, 37°10'4"S, 142°14'40"E, 12 June 1985, M. Newnham 64 (HOLOTYPE: MEL 673439; ISOTYPES: CANB, NSW).

The identities of the peppermint eucalypts of Victoria have long been in contention. Blakely (1934) recognised three species, viz., *E. lindleyana* DC (syn. *E. elata* Dehnh.), *E. robertsonii* (syn. *E. radiata* Sieber ex Spreng. subsp. *robertsonii* (Blakely) Johnson & Blaxell), and *E. dives* Schauer. Blakely listed only New South Wales localities for typical *E. radiata*.

Willis (1973) considered that *E. radiata* was so polymorphic that division of the species was not warranted. Hence he referred the narrow-leaved peppermints to *E. radiata*, apart from the distinctive *E. elata* and the 'near coastal' peppermints occurring from ?Orbost ('W' in the distribution data) west presumably to South Australia ('DE' in the distribution data). He attributed this southern taxon to *E. nitida*, a Tasmanian peppermint as to type. Willis distinguished *radiata* from *nitida* in his key by the angle of

divergence of the side veins, i.e. $>20^\circ$ compared with almost longitudinal respectively. We do not support this distinction. He did not state under his treatment of *E. nitida* if the distribution 'E' was intended to include the Grampian Ranges.

Ladiges, Humphries & Brooker (1983) investigated the southern Victorian peppermints and concluded that they were a taxon distinct from *E. nitida*. Consequently, they erected a new species, *E. willisii* (type from Near Mt Oberon, Wilson's Promontory). Later, Newnham, Ladiges & Whiffin (1986) distinguished the Grampians populations of *E. willisii* as a separate but related taxon, subsp. *falciformis*.

Our own investigations and those of T. Whiffin and D. Rankin of La Trobe University (*pers. comm.*) indicate that the coastal peppermints west of Melbourne, extending into the south-east of South Australia, and those of the Grampian Ranges are the same taxon, i.e. subsp. *falciformis*. They have larger, coarser juvenile and adult leaves and larger buds and fruit than the typical subspecies. There are no sudden morphological and geographical distinctions between the subspecies. Populations west of Gisborne may be interpreted as intergrades between the two subspecies and possibly influenced genetically by the contiguous *E. radiata*.

Johnson & Hill (1990) segregated a further peppermint species, the glaucous *E. croajingolensis*. This occurs mostly in far eastern Victoria but extends as far west as Mt. Useful and possibly near Lake Mountain, from subcoastal hills north and east to far south-eastern New South Wales. North and west of this distribution, i.e. inland from the Great Dividing Range in eastern Victoria but widespread in the central highlands and extending to the Wombat State Forest north-west of Melbourne and Otway Range is a non-glaucous, narrow, thin-leaved peppermint species that appears to be conspecific with the species that occurs widely on the eastern side of the tableland of south-eastern New South Wales.

From field examination, we consider this latter taxon to be typical *E. radiata*. The populations in Victoria are not conspicuously variable although the adult leaves may be dull or slightly glossy. There is a 'central' area from Mt Buffalo east to Benambra where the seedling leaves are narrower than elsewhere. *E. radiata* subsp. *robertsonii*, which is relatively abundant in New South Wales from the Snowy Mountains northwards in the high country, is a tall, narrow-leaved forest tree with glaucous buds and fruits. We have not found this subspecies in Victoria after extensive field and herbarium studies.

We conclude that the peppermints have not undergone distinctive speciation and accept that many specimens will not be ascribable to any of the above names.

2. *Eucalyptus* ser. *Acaciiformes* L.A.S. Johnson ex Brooker & Slee, *ser. nov.*
Extracodical *E. ser. Acaciiformes* Johnson (unpubl.)

Ad *Eucalyptum* sectionem *Macrantheras* pertinens, habitu arboreo, cortice aspero, inflorescentiis 7-floribus, foliis plantularum subsessilibus vel petiolatis, et fructibus disco leviter ascendenti distinguitur.

TYPUS: *Eucalyptus acaciiformis* Deane & Maiden

Eucalyptus aromaphloia Pryor and Willis, *Vic. Nat.*, 71: 125 (1954). TYPE: At 113 mile post on the Great Western Highway, Victoria (between Buangor and Mt Langi-Ghiran in Ararat district), and approximately at the centre of the species' range, 20 August 1954, L.D. Pryor & J. & J.H. Willis (MEL, Herb. Dept. Interior, NSW, BRI, K); PARATYPE: from Eastern Hill, Creswick, January 1, 1946, J.H. Willis (MEL).

In the protologue of *E. aromaphloia* the authors discussed the problem in relating the name *E. huberiana* Naudin (TYPE: Cap d'Antibes, France, published 1891) to natural populations. It was concluded that some Victorian populations ascribed to *huberiana* were hybrids of *E. viminalis* with an un-named species. This other parent of the so-called hybrid was published as *E. aromaphloia* Pryor & Willis in 1954. The new species was considered to have an extensive distribution in western Victoria and to cross into South Australia. The southern, more coastal forms of *huberiana* were later (1980)

included in *E. viminalis* subsp. *cygnetensis* by C.D.Boomsma (*type*: Cygnet River, Kangaroo Island, South Australia).

Willis (1973) and Costermans (1981) extended the distribution of *E. aromaphloia* to East Gippsland. Chappill (1986) made a comprehensive study of the major *aromaphloia* forms across Victoria plus *E. corticosa* L.A.S.Johnson from the Rylstone area of central western New South Wales. Chappill concluded that there were four taxonomic entities involved, viz. *E. corticosa* s.s., Little Desert and western Grampians populations of *E. aromaphloia*, the typical form occurring from the Mt. William Range in the Grampians east to the Brisbane Ranges, and another wide-ranging form east of Melbourne.

Populations 'in the broader concept of *E. aromaphloia*' from east of Erica to the Eden area of far south-eastern New South Wales were segregated as a new species, *E. ignorabilis*, by Johnson & Hill (1991). The western limit for this species which, has dull green adult leaves, according to the protologue and our own observations, was given as 'around Morwell'. There is a problem in the distribution for the species as the map shows two sites clearly west of the cited area. These western populations, which we interpret to occur from Woori Yallock south-east to Driffield, have conspicuously glossy green adult leaves, ovate juvenile leaves and cannot be *E. ignorabilis*. They have been published as *E. fulgens* by Rule (1996 see page 136 of this volume). Other problems in the overall *aromaphloia* taxonomy have been brought to our attention by this author

Recent fieldwork by ourselves indicates that typical *E. aromaphloia* is scattered and relatively widespread compared with other taxa in the group. It may be diagnosed by:

- bark - rough to small branches, thick, hard, becoming deeply furrowed like ironbark;
- juvenile leaves - elliptical to narrowly oblong, slightly crenulate, dull, bluish green; sessile to very shortly petiolate, opposite for many pairs;
- adult leaves - slightly glossy, green to bluish green;
- inflorescences - 7-flowered.

It occurs in central and western Victoria from the Mt. William Range in the eastern Grampians north-east to the Fryers Range State Forest, south-east to Anglesea and south to Moonlight Head. West of this area, including part of the Grampian Ranges and Little Desert and south to near Cavendish, the juvenile leaves are \pm linear. This form, worthy of recognition as a subspecies of *E. aromaphloia* and treated elsewhere in this volume as *E. sabulosa* K.Rule, (see page 138), is never coastal. *E. viminalis* subsp. *cygnetensis* maybe confused with it in the south-west of the State but differs in the typical *viminalis* juvenile leaves, i.e. sessile usually amplexicaul, green, lanceolate, and remaining opposite for many leaf pairs. The fruit of *viminalis* are larger, with a more prominent ascending disc which varies from flattish to slightly ascending in both taxa of *E. aromaphloia*.

A further form, restricted to the Mt Richmond area in the far south-west of the State, was rejected by Chappill in her study which was specifically on *E. aromaphloia* and closely related taxa. This form was considered by her to be *E. viminalis* subsp. *cygnetensis*. It is notable for the rough bark, yellow branchlets, and very glossy, green, adult and juvenile leaves. It is published elsewhere in this volume as *E. splendens* K.Rule (see page 140) and differs most conspicuously from the *viminalis* group in the seedling leaves which are soon very shortly petiolate and taper to the base and are not amplexicaul.

Pryor & Willis's (1954) surmise that *E. aromaphloia* occurs in South Australia has not been proved. Unsubstantiated sitings are probably *E. viminalis* subsp. *cygnetensis*.

3. *Eucalyptus* ser. *Rufispermae* Maiden

Eucalyptus phenax Brooker & Snee, *sp. nov.*

Eucalyptus anceps auct. pl. non (R.Br. ex Maiden) Blakely (1934).

Eucalypto conglobatae (R.Br. ex Benth.) Maiden affinis a qua constanter habitu fruti-

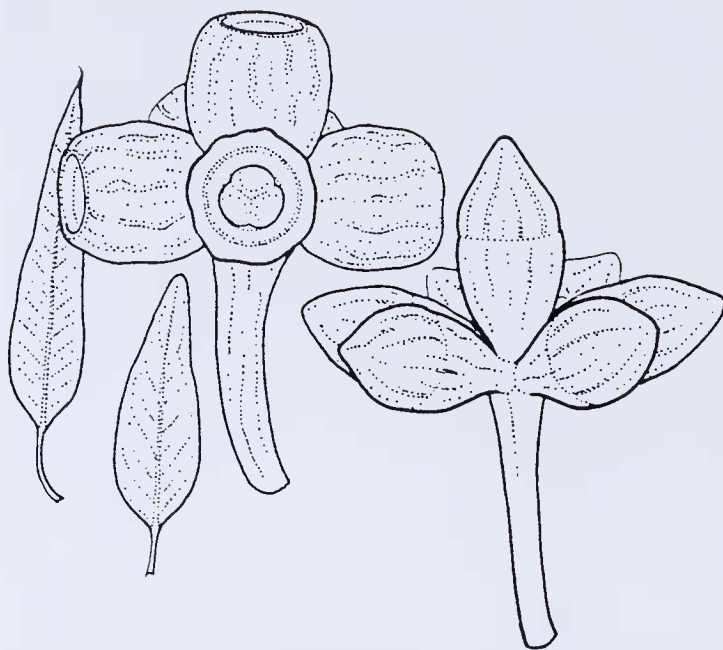


Fig. 1. Buds, fruits and leaves of *Eucalyptus phenax*.

coso, foliis lanceolatis, praesentia pedunculorum, basi alabastrorum decrescentibus et fructibus angustioribus longioribus quam latioribus differt.

TYPE: South Australia, 12.7 km from Duke's Highway towards Pinnaroo, 35°17'27''S, 139°37'30''E, 26 Jan. 1995, *D. Nicolle 1212*, *R. Nicolle & M.I.H. Brooker* (HOLOTYPUS: AD; ISOTYPES: CANB, MEL, NSW, PERTH).

With affinity to *Eucalyptus conglobata* from which it differs by the consistent mallee habit, lanceolate leaves, presence of peduncles, the tapering base of the buds, and the narrower fruit which are longer than wide. (Fig. 1)

DISTRIBUTION

Western Australia from near Bolgart, north-east of Perth eastwards and southwards although largely subcoastal, but not known for certain along the southern Nullarbor Plain; South Australia on Eyre Peninsula, Yorke Peninsula and south-east of Adelaide except the southern part of Fleurieu Peninsula, extending into Victoria in the Sunset Country and Big and Little Deserts. (Fig. 2)

ETYMOLOGY

From the Greek noun *phenax*, impostor, in reference to the species' long and misleading tenancy of the name *anceps*.

NOTES

Eucalyptus phenax has been incorrectly known as *E. anceps* until the last few years when it was recognised that the type of *E. anceps*, collected by Robert Brown on Kangaroo Island in 1802, was *E. rugosa* (the senior author and P. Lang, *pers. comm.*). The name *rugosa* (*E. ser. Torquatae*) has been correctly applied by most collectors and

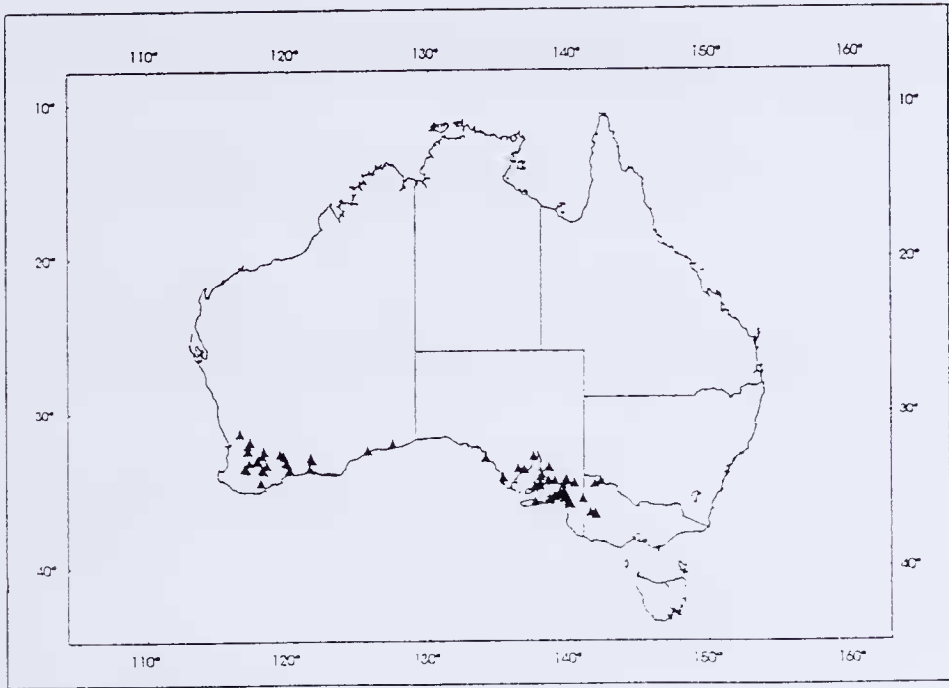


Fig. 2. Distribution of *Eucalyptus phenax*.

taxonomists.

The type of *E. anceps* (BM, CANB, E, K, MEL, NSW) is a sprig with adult leaves and apparently mature flower buds. The peduncles are flat, wide and stout and the buds have opercula narrower than the hypanthium. It is unmistakably *E. rugosa* (also publ. 1934), yet the name *anceps* has invariably been applied to a comparatively unrelated mallee.

Eucalyptus phenax belongs to the large series *Rufispermae* in which speciation is often not distinct. It is closely related to *E. conglobata*, *E. pileata* and *E. dumosa*, but its long time acceptance as a taxon, albeit sometimes tentatively, suggests that it should have the same rank along with the three species above.

One of the confusing issues concerning *E. 'anceps'* (now *E. phenax*) is that its common name is Kangaroo Island Mallee. However, its actual occurrence on the island has been in contention, and in recent literature, '*anceps*' has been somewhat arbitrarily treated.

Boomsma (1981) included Kangaroo Island in his distribution for the species. Jessop and Tolkein (1986), on the other hand, subsumed '*anceps*' in *E. conglobata* on the advice of P. Lang whose concepts (then) of taxonomic rank were at odds with fellow workers. Populations which Jessop and Tolkein attributed to *E. conglobata* occur at the eastern end of the island, although there is no indication as to whether they considered these populations to be *E. conglobata* s.s. only, or whether they consisted of *E. conglobata* s.s. plus *E. 'anceps'*. Brooker & Kleinig (1983) included '*E. anceps*' on the island according to the distribution map and the common name, but excluded it later (1990) when they devoted a key specifically to the island's eucalypts.

In the most recent study of the eucalypts of Kangaroo Island, D. Nicolle (unpubl. 1994) considered that the mallees on the island most commonly attributed to '*anceps*' were a separate, unrecognised taxon which he referred to as '*E. affinity conglobata*'. He does not recognise the occurrence of *E. conglobata* s.s. on the island. The distribution of this un-named taxon is given as 'north-eastern Kangaroo Island and Waitpinga to

Goolwa', these latter, fairly restricted sites being on the mainland opposite. Nicolle distinguishes the widespread mainland species, *E. phenax*, from both of the related taxa, viz. *E. conglobata* and *E. affinity conglobata*.

SELECTION OF SPECIMENS EXAMINED

WESTERN AUSTRALIA: 30 km from Tammin on York road, 15 Sep. 1982, *M.I.H. Brooker 7630* (CANB); opposite Stennet's Lake, 26 Feb. 1985, *M.I.H. Brooker 9120* (CANB); Mosquito Hill, Bolgart East Road, 3 Sep. 1987, *M.I.H. Brooker 9753* (CANB); 21.8 km south of Lake Grace town on Pingrup road, 23 Oct. 1983, *K. Hill 329* (CANB, NSW, PERTH); 22.4 km NW of Parmango Road on Clyde Rock Track, *Margaret Johnston 8* (CANB).

SOUTH AUSTRALIA: Gum Flat near Cleve, 16 May 1973, *D. Boland 1521* (CANB); south-east of Mt. Hope, Eyre Peninsula, 6 Dec. 1972, *M.I.H. Brooker 3865* (AD, CANB, MEL, NSW, PERTH); Between Waikeric and Blanchetown, 3 Apr. 1975, *M.I.H. Brooker 4906* (AD, CANB); Murray Bridge, 6 Jan. 1907, *R.H. Cambage & J.H. Maiden s.n.* (CANB 6474); south-east corner of section 110, Hd. of Wiltunga, 4 Feb. 1966, *B. Copley 8* (AD, CANB); about 10 km WSW of Coomandook, 20 May 1973, *M.D. Crisp 476* (AD, CANB); 15 km south-west of Kapunda, 1 Jul. 1973, *M.D. Crisp 494* (AD, CANB); 25 km east of Tailern Bend on Pinnaroo road, 3 Sep. 1985, *N.N. Donner 10635* (AD, CANB); Willaston, 5 Sep. 1967, *D.N. Kraehenbuhl 2749* (AD, CANB); Koppio, Eyre Peninsula, 28 Dec. 1977, *L.D. Williams 9718* (CANB); Yorke Peninsula, ca. ½ km south of Bluff, 13 Sep. 1974, *J.Z. Weber 4111* (AD, CANB).

VICTORIA: Wyperfeld National Park. Extreme E end of Ginap Track S.E. of Yallum Dune, 12 Nov. 1968, *A.C. Beauglehole 29537* (MEL, CANB); 20.9 km S of Mildura on Ouyen road, 5 Sep. 1989, *M.I.H. Brooker 10264* (CANB); 14.6 km E of junction of Werrimul road and north boundary track of Sunset Country, 11 Oct. 1989, *M.I.H. Brooker 10321* (CANB); 7.3 km south of Murray Valley Hwy, S of L. Kramer, 11 Oct. 1989, *M.I.H. Brooker 10325* (CANB); Little Desert National Park. Junction of Kiata South Road-Campground Road, 26 Sep. 1990, *G. Cornwall*, Ref. L.D. 1/90 (CANB, MEL).

4. *Eucalyptus* ser. *Orbiculares* Brooker & Slee, ser. nov.

Eucalyptus subser. *Perfoliatae* Blakely, *Key Eucs* 150 (1934).

Ad *Eucalyptum* sectionem *Macrantheras* pertinens, foliis juvenilibus sessilibus oppositis per nodos multos orbicularibus glaucis, foliis adultis hebetibus et inflorescentiis 3-floribus distinguitur.

TYPE: *Eucalyptus perriniana* F.Muell. ex Rodway

5. *Eucalyptus* ser. *Bridgesiauae* Brooker & Slee, ser. nov.

Ad *Eucalyptum* sectionem *Macrantheras* pertinens foliis juvenilibus sessilibus oppositis vel suboppositis per nodos multos ovatis crenulatis et inflorescentiis 7-floribus distinguitur.

TYPUS: *Eucalyptus bridgesiana* R.Baker

6. *Eucalyptus* ser. *Viminalis* Blakely

Eucalyptus viminalis subsp. *pryoriana* (L.A.S.Johnson) Brooker & Slee, comb. et stat. nov.

Eucalyptus pryoriana L.A.S.Johnson, *Contr. New South Wales Natl Herb.* 3: 115 (1962), basionym. *E. viminalis* var. *racemosa* F.Muell. ex Blakely, *Key Eucalypts* 162 (1934). TYPE: Port Phillip, Vic., Feb. 1880, ?*F. Mueller* (LECTOTYPE: NSW fide L.A.S. Johnson, loc. cit.).

The manna gums, *E. viminalis sens. lat.*, are widely distributed in well-watered parts of south-eastern Australia. The typical mainland form is notable for its occurrence along valley bottoms and riversides in hilly or mountainous country where it is an erect, often tall tree with smooth bark except at the very base. There are usually prominent ribbons of imperfectly decorticated bark hanging in the crowns. Buds of the inflorescences are in 3s. The juvenile leaves are green and remain sessile and opposite for many pairs.

There are two currently recognised, non-typical infraspecific taxa, both of coastal and subcoastal plains in Victoria, apart from an extension into the southern Grampians. One is *E. viminalis* subsp. *cygnetensis* which is a completely rough-barked woodland

tree with buds mostly in 7s. It occurs from west of Melbourne to Kangaroo island and southern Eyre Peninsula in South Australia. Subspecies *pryoriana* occupies infertile coastal sandy soils from Bellarine Peninsula east as far as Lake Tyers. It is a small tree with rough bark and buds in 3s. It occurs commonly with *Banksia marginata* and *Leptospermum laevigatum*, also with *E. willisii*, *E. bosistoana*, *E. baueriana* and *E. globoidea*. Neither of these subspecies of *E. viminalis* is completely distinctive and *cygnetensis*, in particular, may occur in populations in which the number of buds per inflorescence is variable.

7. *Eucalyptus* ser. *Neglectae* Johnson ex Brooker & Slee, *ser. nov.*
Extracodical *Eucalyptus* ser. *Neglectae* L.A.S.Johnson (unpubl.)

Ad *Eucalyptum* sectionem *Macrantheras* pertinens habitu arboreo, cortice aspero, foliis arboris summae juvenilibus adultisque, inflorescentiis 7-15-floribus, pedunculis brevissimis et alabastris fructibusque sessilibus, congestis et glaucis distinguitur.

TYPUS: *Eucalyptus neglecta* Maiden

A monotypic series.

8. *Eucalyptus* ser. *Crenulatae* Brooker & Slee, *ser. nov.*

Ad *Eucalyptum* sectionem *Macrantheras* pertinens, habitu arboreo, cortice aspero, foliis arboris summae omnino juvenilibus ovatis, primo glaucis postremo viridibus, inflorescentiis 7-11-floribus, alabastris pedicellatis glaucis et operculo rostrato distinguitur.

TYPE: *Eucalyptus crenulata* Blakely & Debeuzeville

A monotypic series.

9. *Eucalyptus* ser. *Kitsoniauae* L.A.S.Johnson ex Brooker & Slee, *ser. nov.*
Extracodical *E.* ser. *Kitsoniana* L.A.S.Johnson (unpubl.)

Ad *Eucalyptum* sectionem *Macrantheras* pertinens, habitu arboreo vel fruticoso, cortice laevi, foliis juvenilibus sessilibus oppositis per nodos multos latis, foliis adultis magnis, inflorescentiis 7-floribus, prominenter bracteatis distinguitur.

TYPE: *Eucalyptus kitsoniana* Maiden

A monotypic series.

10. *Eucalyptus* ser. *Subbuxales* Blakely

Eucalyptus viridis R. Baker subsp. *wimmerensis* (Rule) Brooker & Slee, *comb. et stat. nov.* *Eucalyptus wimmerensis* Rule, *Muelleria* 7: 193 (1990), basionym. TYPE: Victoria, Lawloit Range on the Western Highway between Nhill and Kaniva, 36°24'S, 141°31'E, 27 Dec. 1964, *J.H. Willis s.n.* (MEL).

The box eucalypts are a vexing problem taxonomically. Occurring widely in all mainland States, they has never been a satisfactory comprehensive treatment. Simplistically, not they may be considered to consist of desert species, e.g. *E. intertexta*, tropical species, e.g. *E. tectifera*, floodplain species, e.g. *E. microtheca*, and eastern species which comprise a very large array of taxonomic series. These may be divided into two major groups, one in which the outer operculum is shed during bud development and a second in which the outer operculum is held until flowering. In this latter group are the mallee boxes which consist of about six species ranging from Eyre Peninsula through Victoria and New South Wales to south-eastern Queensland.

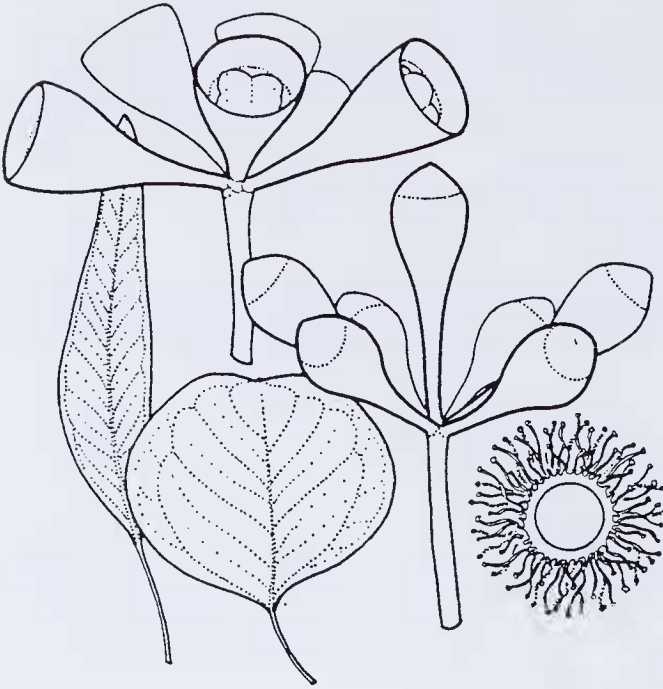


Fig 3. Buds, fruits, shed androecium and leaves of *Eucalyptus polyanthemus* subsp. *longior*.

Eucalyptus viridis is the most widespread of these mallee boxes, occurring in the Flinders Range of South Australia, across western and central Victoria, the western plains and slopes of New South Wales and scattered in south-eastern Queensland. Willis (1973) considered a population in the Lawloit Range between Nhill and Kaniva, and which he retained in this species, to be aberrant because of its broader leaves and larger fruit.

Rule (1990), in a study that included both forms of *E. viridis* plus *E. odorata* and *E. polybractea*, concluded that the Lawloit Range form was more extensive in distribution than indicated by Willis and constituted a new species. The grounds for his decision were varied but were largely differences in degree, e.g. among these four taxa, the sides of the fruit were given as varying from slightly angled to faintly ribbed to smooth. The bark character for *wimmerensis* is given as 'smooth or rarely basal, fibrous' and for *viridis* as 'fibrous stocking, confined to lower stem'. It is easy though scarcely of much scientific merit to dwell on selected comparisons like these, but we believe that stronger, discrete differences should be the criteria for species. Hence we have decided on subspecies rank for *wimmerensis*.

11. *Eucalyptus* ser. *Heterophloiae* Blakely

Eucalyptus polyanthemus subsp. *longior* Brooker & Slee, *subsp. nov.*

a subspecie typica foliis adultis longioribus lanccolatis differt.

TYPE: Victoria. 4.6 km along Ostler's Gap Road from Waygara Track Junction; N of Waygara, 37°42'S, 148°20'E, 17 Nov. 1993, M.I.H. Brooker 11637 & A. Slee (HOLOTYPE: CANB; ISOTYPES: AD, MEL, NSW).

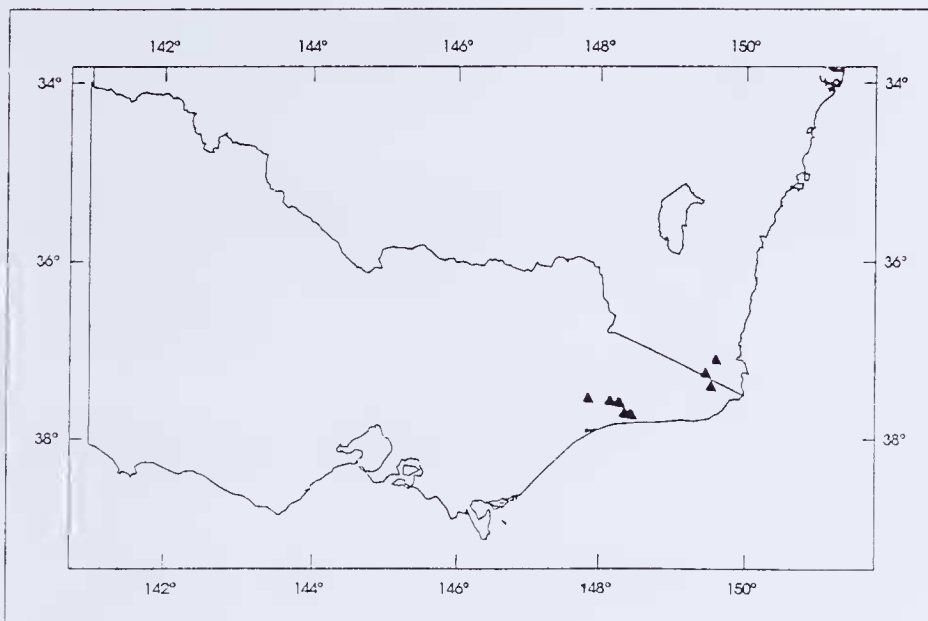


Fig. 4. Distribution of *Eucalyptus polyanthemos* subsp. *longior*.

It differs from the typical subspecies by the lanceolate adult leaves (to 14 x 3 cm) of the mature crown. (Fig. 3)

DISTRIBUTION

This subspecies occurs in low hills of far eastern Victoria from south of Omeo east to Wangarabell and north to Nungatta in far south-eastern New South Wales (Fig. 4).

ETYMOLOGY

From the Latin, *longior*, longer, in reference to the leaves of the new subspecies.

NOTES

Distinctive variants in *E. polyanthemos* have long been recognised. Johnson & Hill (1990) treated the form in southern New South Wales and parts of Victoria in their publication of *E. polyanthemos* subsp. *vestita* which they distinguished from the typical subspecies by the amount of persistent rough bark. Our recent field work revealed the existence of a further form of red box in far eastern Victoria and which extends into far south-eastern New South Wales. It is fully rough-barked like subsp. *vestita* but has lanceolate leaves.

The region in which the new subspecies occurs appears to have been poorly collected for eucalypts as few specimens of this taxon are in herbaria, apart from the early collection of the senior author cited below and some by J.D. Briggs in CANB.

Populations of subsp. *longior* are found within close proximity to those of subsp. *vestita*. They appear to diverge most conspicuously in the shape of the adult leaves, hence the specific epithet. Both subspecies are distinguished from the related *E. baueriana* by their dull, not glossy, leaves.

A further character which will be interesting to investigate is the nature of the androecium. At the type locality at the time of collection (November), the trees were in full flower. The spent androecium was shed intact as a ring comprising the stemonophore and the stamens. These yellowish rings were conspicuous as they were strewn in large numbers under the trees. This phenomenon has also been seen in the typical subspecies although it does not seem to have been reported before in this or any

other eastern species. Shedding of the whole androecium is very rare in *Eucalyptus* but may be seen in the entirely unrelated, *E. macrandra*, a Western Australian endemic (Brooker & Kleinig 1990).

OTHER SPECIMENS EXAMINED

VICTORIA: Reeve Road, west of Orbost, 16 Jan. 1980, *M.I.H. Brooker 6813* (CANB, NSW, PERTH); Mottle Range road, north end, WNW of Orbost, 16 Jan. 1980, *M.I.H. Brooker 6821* (CANB, MEL, NSW); type locality (coppice), 17 Nov. 1993, *M.I.H. Brooker 11638* & *A. Slee*, (AD, CANB, BRI, MEL, NSW); Marimingo Hill, north of Genoa, 4 Mar. 1994, *M.I.H. Brooker 11720* (BRI, CANB, MEL, NSW); ca. 60 km SE of Omeo on the Omeo Highway, 10 Feb. 1978, *J.D. Briggs 111* (CANB); 15.6 miles from Buchan towards Orbost, 17 Sep. 1975, *M.I.H. Brooker 4956* (AD, BRI, CANB, MEL, NSW).

NEW SOUTH WALES: Nungatta North Station, 2.8 km south of Blackbird Creek on track to Nungatta South, 23 Jan. 1989, *J.D. Briggs 2515* (CANB); 0.3 km west of Pericoe, 11 Nov. 1989, *K. Hill 3644* & *R. Makinson* (CANB, MEL, NSW).

12. *Eucalyptus* ser. *Contiguae* Brooker & Slee, ser. nov.

Ad *Eucalyptum* sectionem *Renantheras* pertinens, habitu fruticoso vel rare arbuscula, cortice pro parte maxima laevi, foliis viridibus numquam glaucis, inflorescentiis 7-11 floribus, pedunculis brevissimis, alabastris brevibus verrucosis, fructibus sessilibus congestis distinguitur.

TYPUS: *Eucalyptus kybeanensis* Maiden & Cambage

A monotypic series.

13. *Eucalyptus* ser. *Pauciflorae* L.A.S. Johnson ex Brooker & Slee, ser. nov.

Extracodical *Eucalyptus* ser. *Pauciflorae* L.A.S. Johnson (unpubl.)

Ad *Eucalyptum* sectionem *Renantheras* pertinens, cortice laevi, foliis plantularum oppositis paucis, juvenilibus non oppositis petiolatis pendulis, adultis nitentibus venis principalibus longitudinalibus distinguitur.

TYPUS: *Eucalyptus pauciflora* Sieber ex Spreng.

This series comprises the snow gums.

14. *Eucalyptus* ser. *Psathyroxyla* Blakely

Eucalyptus subser. *Considenianae* Brooker & Slee, subser. nov.

A subserie typica cortice qui asper est differt.

TYPUS: *Eucalyptus consideniana* Maiden

The erection of this subseries recognises formally the natural affinity of the scribbly gums (subser. *Psathyroxyla*) and the silver-top ashes (subser. *Considenianae*) foreshadowed in the study of the ash group of eucalypts by Brooker (1977).

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